Environment and Sustainability Committee

Tuesday 10th of May 2022

Title	*Indicative Air Quality Modelling for the Air Quality Action Plan*
Purpose of the report	To note
Report Author	*Dr Claire Lucas, Principal Pollution Control Officer*
Ward(s) Affected	All Wards
Exempt	No
Exemption Reason	Not applicable
Corporate Priority	Environment
Recommendations	**Committee is asked to:** Note the scenarios that will inform an air quality dispersion modelling exercise that is being undertaken to inform updates to the Air Quality Action Plan.
Reason for Recommendation	Not applicable

1.   Summary of the report

1.1   This report seeks to outline the scenarios that will inform air quality dispersion modelling to inform updates to the Air Quality Action Plan (AQAP).

1.2   In order to undertake meaningful updates to the AQAP it is necessary to explore scenarios that would potentially reduce the concentration of air pollutants in areas of the Air Quality Management Area (AQMA), where there has been consistent exceedance of the annual mean National Air Quality Objective (NAQO) for nitrogen dioxide of 40µg/m^3 or repeated annual mean concentrations within 10% of the NAQO over a five year period based on air quality monitoring data to 2019 (pre-pandemic, the pandemic reduced traffic emissions due to travel restrictions so the 2020 monitoring data was not included).

1.3   Exceedances of the NAQO in Spelthorne have ranged from 4 to 17 µg/m^3 above the 40 µg/m^3 annual mean NAQO in the five years from 2015 to 2019.

1.4   The investigatory work is being undertaken in line with Local Air Quality Management Technical Guidance provided by Defra and has been informed through consultation with Transport Planners from Surrey County Council and a specialist technical consultant.

2.   Key issues

2.1   Spelthorne currently has a borough wide AQMA that was declared for nitrogen dioxide. The exceedances of the annual mean National Air Quality Objective for nitrogen dioxide are primarily attributable to pollutant emissions from traffic.

2.2   The extent of monitored exceedance of the National Air Quality Objective for nitrogen dioxide at monitoring locations across the Borough has been variable year-on-year. There have been improvements since the Air Quality Management Area was declared in 2003 however further actions are required to bring about further improvements, and to safeguard air quality for the protection of public health.

2.3   Consultation with the Transport Authority, Surrey County Council has indicated that overall traffic flows are currently approximately 6% below pre-pandemic levels. There has been some behavioural change in that the morning peak period traffic flows remain lower, but the inter peak period which covers the afternoon school traffic has shown an increase in flows, and the weekend traffic flows are higher than prior to the pandemic. It remains to be seen as to whether the overall reduction is sustained.

2.4   Policies to sustain reductions in traffic flows could be incorporated into the update Air Quality Action Plan, for example policies to support active travel and to educate school children about air pollution to discourage car use.

2.5   On the 4th March 2022 the Mayor of London announced that he had instructed Transport for London to consult on expanding the London Ultra Low Emissions Zone (ULEZ) to cover Greater London in 2023[1]. This would include the neighbouring Boroughs of Hounslow, Hillingdon, and Richmond.

2.6   It would be expected that should the ULEZ be expanded that with time the Spelthorne Community would increasingly convert to ULEZ compliant vehicles due to the need to enter Greater London. The ULEZ targets the most polluting vehicles and applies a daily charge of £12.50 to non-Euro 6 diesel engine vehicles (approximately those predating 2014) and non-Euro 4 petrol engine vehicles (approximately those predating 2006) that enter the zone.

2.7   An air pollutant source apportionment exercise has indicated the diesel cars are a significant source of nitrogen dioxide in areas of the AQMA where there has been consistent exceedance of the annual mean National Air Quality Objective for nitrogen dioxide. See Appendix 1.

2.8   The air quality dispersion modelling exercise will provide an indication of the level of improvement that may be achieved by sustaining a reduction in overall traffic flows and by reducing the proportion of older more polluting diesel vehicles within the traffic fleet.

2.9   The outcomes of the modelling exercise will inform policy and measures to improve local air quality through an updated AQAP.

3.   Outline of AQAP Process and the Adoption of the AQAP

3.1   At this stage of the AQAP process members are not being asked to decide on whether these scenarios should be modelled, only that they note them. This is because the scenario modelling is part of a technical exercise that determines

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[1] Press release from the Mayor of London 04/03/2022 available at: https://www.london.gov.uk/press-releases/mayoral/mayor-sets-out-london-wide-ulez-plans

the quantitative impacts on air pollution levels that may be brought about by various practical situations.

3.2 A special session will be arranged with the Environment and Sustainability Committee during which the findings of the air quality modelling will be discussed and the Committee's views for actions to reduce pollution will be sought. This will be held post September 2022 when the modelling is complete.

3.3 The views of residents and statutory consultees will be also sought prior to the AQAP coming back to the Environment and Sustainability Committee for approval. After which it will be sent to the Department of Environment, Food, and Rural Affairs (DEFRA) for assessment. If the AQAP passes DEFRA's assessment Spelthorne can then formally adopt the AQAP.

4. Options analysis and proposal

4.1 The scenarios for the informative modelling are as follows:

1. *A reduction in pre 2014 diesel cars in line with the Euro 6 restriction for the proposed neighbouring London ULEZ extension.*

2. *An improvement in HGV and bus engines, with increased uptake of Euro 6 diesel vans most applicable to the areas that intersect with strategic roads from London.*

3. *Traffic Reduction. A starting scenario of a 5% blanket reduction in traffic flows from pre-pandemic flows to explore the impact of a sustained reduction in traffic flows over time.*

4. *A Do-Nothing scenario to consider the assessment year without intervention.*

5. Financial implications

5.1 The modelling exercise is covered by existing budget. Costs forecast to date are £16,000 from which the costs of the source apportionment work have already been spent in the 2021/22 financial year.

6. Other considerations

6.1 There is uncertainty associated with the Mayor of London's recent instruction to Transport for London to consult on extending the ULEZ to cover Greater London as the outcome of the consultation exercise being undertaken by Transport for London is not yet known.

6.2 The model scenarios reflect the changes to the vehicle fleet in Spelthorne that may be generated by the potential expansion of the ULEZ, should the expansion not go ahead then alternative local measures may be required to achieve the reductions in older diesel engine vehicles that are being explored in the modelling exercise.

7. Equality and Diversity

7.1 The modelling exercise will not impact upon equality or diversity.

7.2 Air pollution is known to disproportionately effect less economically affluent communities, often these communities have lower levels of car ownership and a greater level of poor respiratory health. Actions to improve air quality can benefit these communities.

8.   Sustainability/Climate Change Implications

8.1   Updating the borough's Air Quality Action Plan is an important step in seeking to reduce the Borough's emissions in terms of air pollutants. Actions and policies to reduce air pollutant emissions from traffic will also help to reduce traffic related greenhouse gas emissions.

9.   Timetable for implementation

9.1   This proposed technical modelling exercise will begin in May 2022. The modelling will be provided by a technical specialist consultant.

9.2   The technical modelling will take 3 months to complete with predicted completion by September 2022. Further scenario testing may be required if the measures that are modelled are not effective.

9.3   Relevant policies and actions must then be drafted and consulted on with the public, stakeholders (Surrey County Council, neighbouring Boroughs, National Highways), and internally within Spelthorne Borough Council. Consultation is expected to take around 6 months with some dependence on the response times form external consultees. Following the consultation period, a draft Action Plan will need to be signed off by the Committee and submitted to Defra for approval. Defra may require further changes to the Action Plan upon their review.

10.   Contact

10.1   pollution.control@spelthorne.gov.uk

Background papers:

There are none.

Appendices:
Appendix 1. Source Apportionment Data Summary